



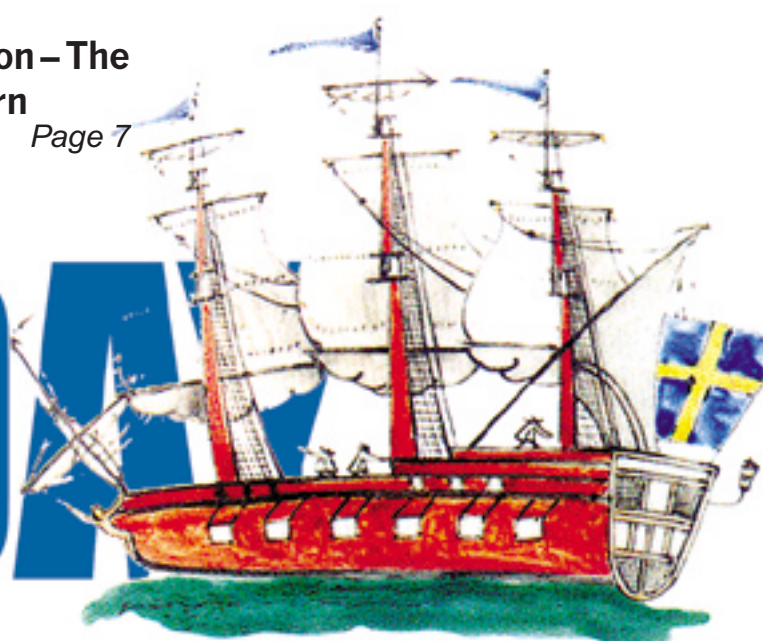
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The return of a legend, but with a happy ending

The Swedish East Indiaman replica merchant ship Götheborg began her maiden voyage on October 2. She is following the route of the original 18th century ship and sailing into an eastern dream. The voyage will last for almost two years, and cover 37,000 nautical miles. News of her epic voyage precedes her, and flowers and wine are waiting at every port. In the Far East, China is eagerly expecting this old and new friend. Three docks in Shanghai are competing to be her berthing place, and the Humen dock in Guangzhou will be rebuilt as her first port of call in China. We believe the new Götheborg will become a new legend.



Götheborg III started her maiden voyage from Gothenburg and will arrive in Guangzhou in late June next year.

Celebrations on the way to China

By Wang Xiaoyuan

The expedition of the East Indiaman replica ship The Götheborg III has left the city of Gothenburg, and every port of call on her voyage is busy preparing for their guests.

A big celebration was held at the port of Gothenburg on Sunday. The royal grandeur and the 18th century replica ship attracted a big audience to fill the shores of the harbor, including the Swedish king and queen, regional celebrities, and government officials. After a priest blessed the ship, The Götheborg III began her journey.

According to Mikael Appelqvist, the Spain Project Manager of this expedition, the ship will have an official reception, including a press conference

and TV coverage, at her first stop at Cadiz, Spain. Then she will set out as one of the starting line-up of the 2005 – 2006 Volvo Ocean Race.

The crew of The Götheborg III will be invited to be guests at a range of ceremonies of different countries on the way, such as the national day of Mauritius.

An open exhibition will be held at every port during the voyage. The exhibition will introduce the history of the Swedish East Indiaman Götheborg I, II and III. The public will be invited onto the ship to see its model, look at the crew at work, and learn the history of SOIC (Swedish for Svenska Ostindiska Companiet), especially its trade with China. Local volunteers will be chosen to join the crew.

Crew members of Götheborg III

By Jia Ting

The world's only full-rigged sailing vessel and largest wooden ship will have 80 people onboard, including 20 professional seamen, 50 trainees, and another 10 guests who include sponsors and the media.

40 professional seamen have been recruited, 25 percent of whom are Norwegian. The professional part of the crew consists of two relief sections.

"I've been out on the sea since I was 16, and now I'm almost 60. This is the first time I have had the opportunity to sail to China, and the most exciting part is that the ship will retrace the journey of the ancient Marine Silk Road," Captain Kaaling said enthusiastically.

Along with the 20 professionals, another 50 trainees will compose the rest of the crew onboard. 600 trainees will be recruited and divided



The crew of Götheborg

into 12 sections to join the 12 legs of the whole journey. Each section of 50 trainees will be relieved after each leg. Among the 50 trainees, four to six positions will be offered to youths from the ports and cities that The Götheborg will visit on her China Expedition. Changes

of the crew are planned in Gothenburg, Cadiz, Redife, Cape Town, Fremantle, Jakarta, Shanghai, Singapore, Mauritius, Cape Town, Ascension and the Azores. These youths will be flown directly to the port of enrolment and they will leave the ship from their homeport.

"Till now, we have recruited 300 trainees and they are about to join the first six legs of the journey to China. They will assemble in Gothenburg for training before being flown out to their port of departure," Captain Kaaling explained.

Follow the 18th century itinerary

Leg 1: Gothenburg, Sweden to Cadiz, Spain (2,400 nautical miles)

Leg 2: Cadiz, Spain to Recife, Brazil (3,100 n m)

Leg 3: Recife, Brazil to Cape Town, South Africa (4,200 n m)

Leg 4: Cape Town, Brazil to Fremantle, Australia (4,900 n m)

Leg 5: Fremantle, Australia to Jakarta, Indonesia (1,800 n m)

Leg 6: Jakarta, Indonesia to Guangzhou (2,000 n m) and to Shanghai, P. R. China (900 n m)

Leg 7: Shanghai to Hong Kong, P. R. China (800 n m) and to Singa-

pore (1,800 n m)

Leg 8: Singapore to Mauritius, Indian Ocean (2,900 n m)

Leg 9: Mauritius to Port Elizabeth and Cape Town, South Africa (2,400 n m)

Leg 10: Cape Town to Ascension, South Atlantic Ocean (2,500 n m)

Leg 11: Ascension to the Azores, Portugal (4,700 n m)

Leg 12: The Azores to London, UK and Gothenburg, Sweden (2,600 n m)

On September 12, 2007, the Swedish East Indiaman The Göthenburg will celebrate the success of her maiden voyage at home.

Edited by Wang Xiaoyuan



Which Shanghai dock?

By Wang Xiaoyuan

The competition to decide which of three main docks of Shanghai will berth The Göthenburg has caused some controversy concerning the sea's depth at the Oriental Pearl Cruise Dock. The three contenders are the Oriental Pearl Cruise Dock, Shiliupu Dock, and the Wusong

Transportation Center of Shanghai Harbor. Shiliupu, the oldest dock with a 142 year history, was the first to apply to be the berthing dock. However, since it was retired in 2003, the Wusong dock has taken its place as the largest dock in Shanghai. Shiliupu is now being developed into a large tourist site.

Returning to 'Canton'

By Jia Ting

Local authorities in Guangzhou are busy in their preparations for the arrival of The Götheborg III, including the construction of a replica Chinese ship to carry The Götheborg's crew up the Pearl River. After the journey of almost 18,000 nautical miles, The Göthe-

borg will reach Guangzhou, the former starting point of the ancient Marine Silk Road, in late June next year. The ship will then anchor at Zhoutouzui Wharf for 15 days to let tourists onboard to visit the full-size, hand-built replica of the famous early 18th century sailing ship.

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"Each trial has its own meaning"

Götheborg has had six sea trials since May this year, from cruising in the archipelago outside Gothenburg, to friendly visits to Oslo and Denmark, to the official naming ceremony by the Swedish King Carl XVI Gustaf and Queen Silvia in Stockholm.

"Each trial has its own meaning," said Joakim Severinson, the fleet manager and master shipwright. "The more we practice, the better it will be."

Sea trials essential for China expedition



Peter Kaaling

By Annie Wei

Peter Kaaling, captain of Götheborg, has had a busy year preparing the crew and his ship for the trip to China.

Götheborg had to pass a series of tests to get formal approval from maritime authorities.

"There were a lot of tests to be done – around 50 to 55 – including safety and equipment tests," explained Kaaling.

When asked whether it was difficult to handle all those requirements, Kaaling said, "Nothing is difficult, but it takes time."

The spring and summer of 2005 was a time of intense activity for the commander and his crew, who worked hard on their education and formal training.

"The sea trials are important," Kaaling said, "The main reason for the trials was to test all the equipment, but another reason has been to get to know the ship and how to handle her well in different weather conditions."

The first sea trial was very exciting, recalled Kaaling: "There were 80 people in the ship, including crew, visitors and guests." They spent a whole day in the coast outside the city of Gothenburg.

"We tested all the equipment that day, and found out that the ship sailed very well," Kaaling said. It was a new experience for some of crew on Götheborg. "They learned a lot, read the literature, and learned climbing skills," informed Kaaling.

There were six sea trials, some of two week's duration. Kaaling explained that boredom was unavoidable, especially during periods of calm on the crowded ship.

"But there is always a lot of work, and people can read, talk, or play games," insisted Kaaling.

Peter Kaaling has been a sailor since the age of 15, when he began training as an apprentice engineer. As an experienced commander, Kaaling has developed a special interest in sailing ships and tall ships.

The four-mast barquentines – The Star Clipper and The Star Flyer – each carrying 160 passengers, have sailed the oceans under his command, as have the German brig Roald Amundsen and, more recently, the Swedish school ship Gunilla.



Go back to harbor

Photos provided by soic.se

Practice makes perfect

By Xie Xiaolin

Although Götheborg was launched in July, 2003, there were no sea trials until May of this year. Why did the ship have six trials in less than four months? What interesting stories have happened during each sea trial?

Stellan Mjardner, Managing Director of Svenska Ostindiska Companiet AB explains.

Q: Why was there a gap of almost two years from when it was launched to the first sea trials?

A: Since no one has sailed this type of ship for nearly 260

years, and the ship is new, it meant that the captains and crew needed to receive systematic training.

A transatlantic company recruited two experienced captains, who have also been involved in the recruitment process. However, only 20 people are professionals and 50 are young boys selected from thousands of volunteers. A good education may take as long as two years so that they can learn the right skills, like how to anchor or control the ship.

Q: Why did you arrange six sea trials before the formal start

on October 2?

A: After educational training, both captains and crew needed to practice with the ship in natural conditions for close coordination and cooperation. We also want to express gratitude to all people concerned throughout the trials, such as sponsor-friendly sailing and celebration shipping.

Q: What were the problems on each trial?

A: Actually, there have been no major problems but we did make minor adjustments. Although it has been equipped with modern engines, the main

power of the ship comes from the wind and water. Thus, each trial aims to test the weather, especially strong winds, and check the equipment operations as well as calculate the speed. I'm satisfied with the gradual progress of the whole crew after each trial.

Q: What was the public's reaction at each trial?

A: There have been huge crowds at all of the trials. The public is very proud to be involved and have taken many pictures or videos. Some local senior officials have also been present at different ceremonies.

Life on Götheborg

By Xie Xiaolin / Wei Ying

Naming ceremony

Her Royal Highness Queen Silvia of Sweden officially named the East Indiaman Götheborg in September 2004 and wished the ship safe passage on the seven seas.

"We have to apply for more licenses to receive more visitors!"

After the last sea trial, from August 17 to 26, Götheborg dropped anchor in the inner harbor of Stockholm.

"It is estimated that a hundred thousand people crowded

the dock with cameras or videos, but only the invited guests could get on board because of the limited space," explained Stellan Mjardner, managing director of East Indiaman.

"People were standing in long queues everyday," Catrin Marzelius, the project coordinator said, "we had to apply for more licenses before receiving more visitors on board."

21-gun salute

In Sweden, a 21-gun salute is traditional when a ship returns home to the capital. But the one on August 26 was the first on such scale in over 200 years, as it was royal salute for both the city and the king, according to Emanuel Persson, directors of trainees.

In a rare joint appearance, both the Swedish and Norwe-

gian royal families visited the ship during its two-week stay in June to celebrate the 100 years' anniversary of Norway's separation from Sweden.

Bad Weather

The fifth journey from Stockholm back to Gothenburg provided essential bad-weather training for the ship and its crew.

Heavy winds and rains punished and tested the ship, even though it was carefully designed and made.

"We were overwhelmed by waves of about three meters and winds of around 40 knots in the Baltic Sea," recalled the captain, Peter Kaaling.

First launch

On July 2003, a Swedish national holiday, Götheborg majestically slid down the slipway to at last take up her place in her natural environment. A light breeze helped

the flags to flutter by the shipyard. In good time, with regal grace and with the Swedish navy flag flying proudly from her stern, she gently slid way once the final chock had been released.

Food

Food on board is another aspect that surprised the crewmembers, most of whom are amateurs.

Anders Movert used to work at a consultant in Gothenburg. "I did not have great expectations about the food. I know it's difficult to prepare food on board," Anders said. "Götheborg has three cooks who produced superb food. After a few days at sea, it was the simple pleasures in life that came to the fore. Eating, sleeping, sitting and talking to all the new acquaintances – there were the things we appreciated most."



Setting Sail

Trial log

The first sea trial

Time: May 2005

Location: Coast off Gothenburg

Purpose: One day tour to test all equipment

The second sea trial

Time: Two weeks in June

Location: Oslo (the Norwegian capital)

Purpose: Oslo's celebration of the 100 years' anniversary of Norway's separation from Sweden.

The third sea trial

Time: June 20-23

Location: Coast off Gothenburg

Purpose: Day tours with sponsors.

The fourth sea trial

Time: The last two weeks of July

Location: Skagerak, the area between Norway, Denmark and Sweden.

Purpose: To test different requirements by marine authorities

The fifth sea trial

Time: First week of August

Location: Sailing to Stockholm

Purpose: The formal sailing launch of Gotheborg held in Stockholm

The sixth sea trial:

Time: The last week of August

Location: Stockholm back to Gothenburg

Purpose: Return from Stockholm and prepare for China expedition

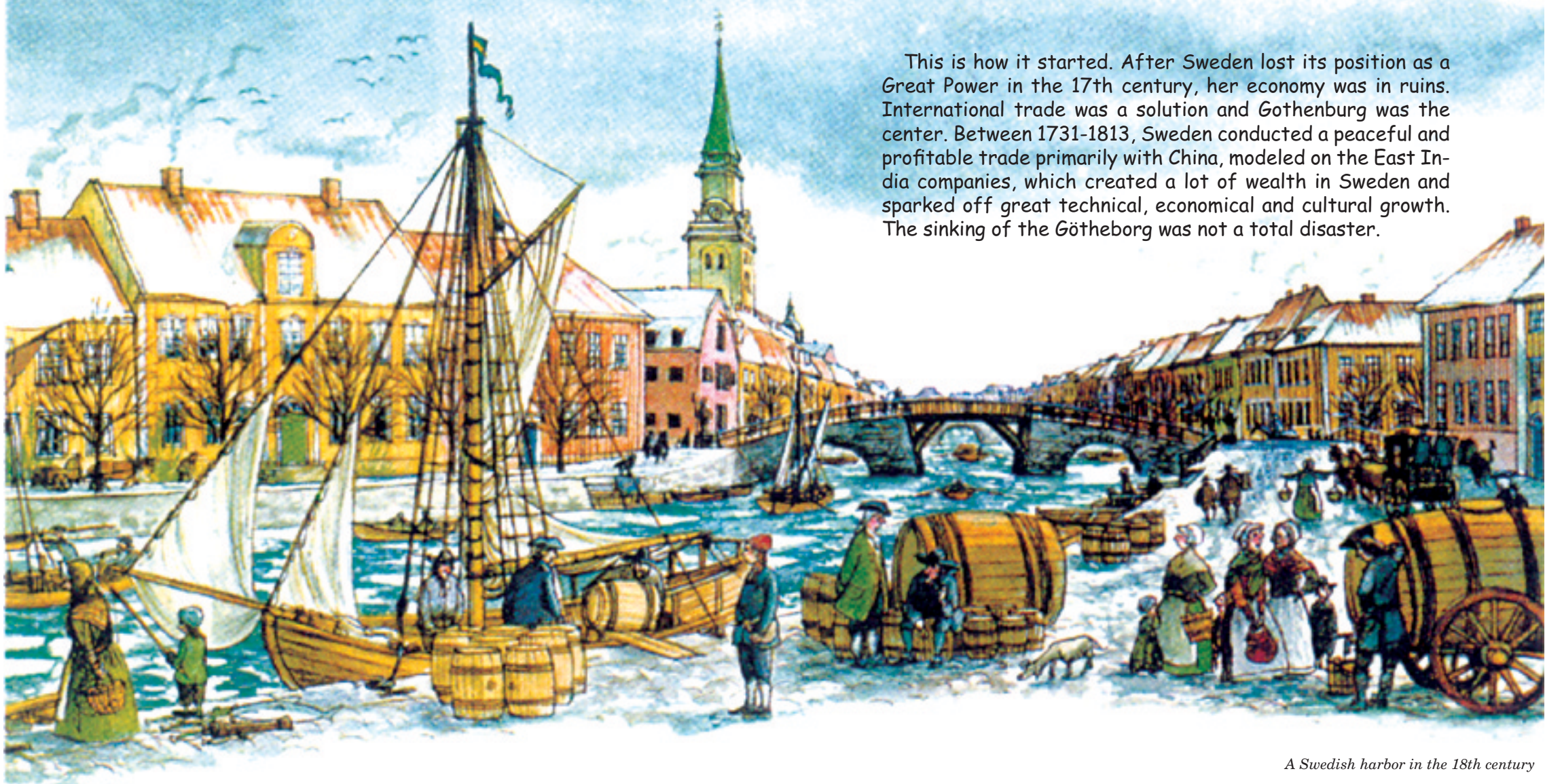


Queen and King of Sweden visiting Götheborg



Götheborg at trials

260 years ago...



A Swedish harbor in the 18th century

By Xie Lixue

Historical background

The year 1720 marked the beginning of the decline of Sweden as a major European power. In 1718, King Charles XII was dead. Sweden was defeated in the Great Northern War (1700-1721) against the combined forces of Denmark, Poland and Russia. A large part of the male population was dead on the battlefield or kept as enslaved prisoners. Lacking manpower and financial means, Sweden's time as a major force was in terminal decline.

In order to revive the nation, several solutions were provided, focusing on industrialization instead of agriculture. As a result, the necessary investments were sought.

The Swedish Minister of Finance, Goertz, formed a secret agreement with pirates in Madagascar to trade gold and armed ships. But due to several unfortunate events, this solution never came to be.

The successful English and Dutch East India Companies, already trading with China, were closely studied and the decision was made to develop international trade with China. It stimulated the Swedish economy and shipping industry. The city of Gothenburg on the west coast was ideally located to play the key role.

East India Company

In 1731, the Swedish East India Company was established, and became the main source of income for the country. The main founder was a Scotsman, Colin Campbell, along with the help of others, such as Niclas Sahlgren from Gothenburg and Swedish finance broker Henric Koenig. With the Swedish Royal Charter granted to them, the company had a monopoly for all trade in east India for 15 years.

At the harbor, ships went out and came in with silks, teas and porcelains from China, through the port of Canton. The first one, named after the King of Sweden, Fredericius Rex, sailed from Gothenburg in 1732. From that time until the company went out of business in 1813, no less than 132 expeditions were undertaken.

But it was a risky business. Taxes, tributes and bribes, often hard to distin-



On departure from Göteborg

guish from one another, were common. Storms, pirates, disease and rival traders were constant threats during the two-year, round-trip voyage from Europe. The expeditions were not without losses: eight ships were wrecked. A particularly spectacular one occurred in 1745, just outside the harbor of Gothenburg on a return voyage.

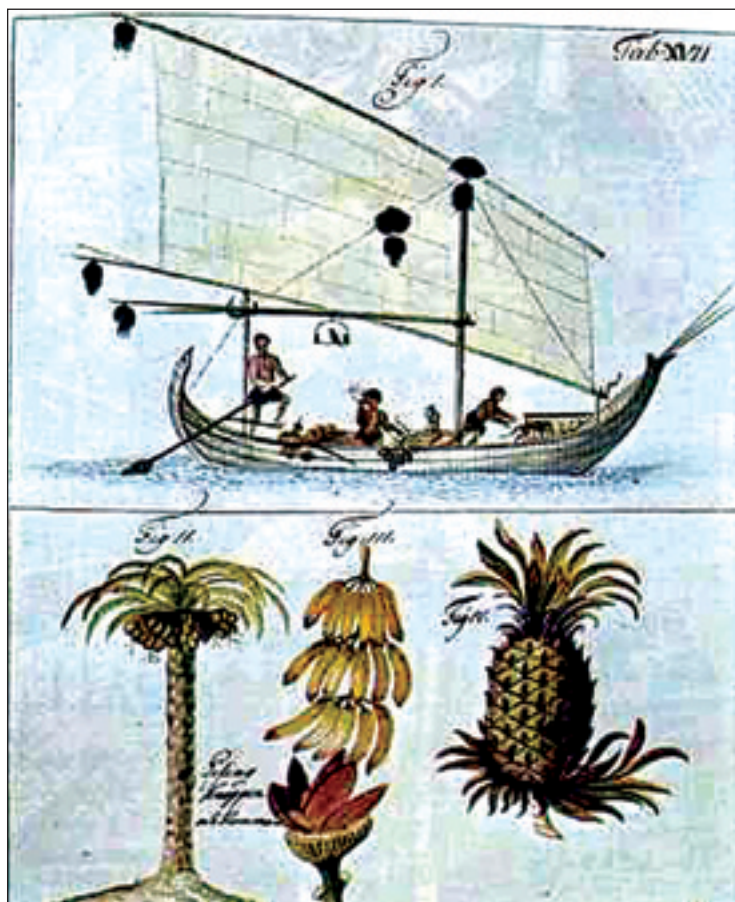
Götheborg, the ship

The first East Indiaman Götheborg was built in 1738 and had the capacity of 843 metric tons. Her maiden voyage was on the 7th expedition during 1739 to 1740. On her third and final voyage, she was breached and sank near her home harbor of Gothenburg.

The diary of the ship's priest Jacob Wallenberg gave people a description of life on board the 18th century East Indiaman Finland, which helps us form a profile of the Götheborg.

At the back of the ship were the officers' cabins and the medicine chest. They doubled as pulpit for the priest on Sundays. From there, along the left side of the corridor, came the deckhands' hammocks, the second table where "better food was eaten" and then a smaller table where the cadets (mid-shipmen) "had their peas." To the right of this were some fifty sheep and on the other side, goats, pigs and milk cows from Hisingen.

Further forward was the smoky kitchen, where the foremost hearth was for the table of the masters and in a huge copper bucket: all the rations were boiled for the crew. In front of this was the galleon, the "bathroom" for crew of 150. The right side corridor led around three oxen, the anchor rope and "there among the chests, were the mid-shipmen and the carpenter." (Wallenberg, Jacob. *Min son pagelejan*, 1769).



At Java, the ships were approached by small boats with Javans wanting to sell fruits and fresh food.

The last voyage

"Left same winter, 1742-43, with the ship Götheborg, but did not make it to Canton and had to stay over at the island of Java for 5 months, lacking food and water before we made it to land."

"Suffered much for storms, lightnings and thunder and a dreadful heat, we lost 35 men in the strong heat and were daily surrounded by a bunch of crocodiles."

"Came happily to Canton and home, 1745. At home coming, we struck on a rock where both myself and many officers lost our cargo."

These were excerpts from the ship's quartermaster Mattias Holmer's diary.

As one of the biggest ships in East India Company, the sinking of the Götheborg was a mystery – it had successfully returned home with Chinese goods twice before, and yet she sank just 900 meters away from home. A state of shock settled on the port town. How could the Götheborg have given up her exotic treasures in waters the local fishermen trawled daily?

This is what we know about its last journey:

Gothenburg 1743

In the early 1740s, the Swedish East India Company main office in the city of Gothenburg was not yet built. Most probably some of the crew will have been lodged in this area. The smoke from chimneys blended with the pungent smell of the barnyard.

It was the autumn of 1743, Gothenburg. On Göta Älv, two

ships Götheborg and Riddarhuset were being equipped, where together, they would make up the company's 11th expedition.

There were less than three years remaining of the company's first royal charter. Just a few years later, July 14 1746, a new group of businessmen would be offered this incredibly profitable monopoly on east India trade. This was the most important future question for the directors of the company. The trade profit was enormous and from a financial point of view this was life or death. Maybe the directors were prepared to take a few too many risks with other peoples' lives.

The preparation took much longer than usual. They could not sail until March 17, 1743. This late departure would prove to be impossible to make up and were the first steps towards the disaster that was to come, 30 months later.

Cadiz, April 1743

In April 7, 1743, Götheborg arrived at Cadiz, Spain, and stayed for one month. The crew unloaded the timber and iron, and took onboard provisions, wines, and most importantly: silver. At that time, by Swedish law, it was forbidden to export Swedish silver coins out of Sweden. Therefore, Cadiz became the place for them to circumvent profits. Often as much as 5 tons of minted silver coins were brought on board.

Java, August 1743

Rounding the Cape of Good



Ships at Canton in the Pearl River

Hope, Götheborg stopped at Java. The crew was in very poor condition. The combined period without vitamin C was too long, but at the time they were not entirely sure what caused scurvy, the affliction the sailors had come down with. Therefore, they couldn't leave Java before September 12. It may have hinged on these last few days in August, as to whether the monsoon winds could blow them all the way to China.

The Island of Sapatou

The Island of Sapatou was a well-known landmark when sailing to China, next to the coast of Vietnam. The notes were incomplete, but we can trace clues to show the wind slowed down their passage to China. Five months they struggled without further sailing.

Canton, September 1744

In the beginning of June 1744, the ship should have arrived at Canton, but we are sure the date was actually September 8. A large part of the crew had died and it could be assumed that more were sick. Although they worked on the ship's upkeep all the way, they had many problems. In addition, some kind of private business venture was ongoing, of which we have no available information.

The 'supercargoes' – merchants in charge of purchasing foreign wares – were in charge of the ship. By now the ship was quite leaky. If the heavy cargo was not right at the bottom of the ship providing ballast, sinking was a very real possibility.

From the bottom, the ingots of Tu-

taneg (a mixture of copper and zinc) were on top of porcelains. Next tea and silk were placed. Under, over, beyond and around this, and literally everywhere, was private merchandise that was bought cheap for sale at a profit.

"Until the ship was as full as an egg." (Mattias Holmers)

Gothenburg, 12 September 1745

Götheborg was approaching land. The outermost islet Vinga was sighted. There they took on board their pilot Casper Mattsson from Brännö for the last part of the voyage into the Göta River and the harbor. She was now filled with tea, spices, silks, porcelain and mother of pearl, and on the point of completing her third successful voyage to Canton and back. Then, for no apparent reason, she struck the well-known underwater reef. The whole of her bow was crushed upon the rock. No crew died in the accident, but her cargo was left strewn on the ocean floor.

After the shipwreck

The pilot Casper Mattsson was prosecuted for his crime (or mistake) while guiding Götheborg. What went down during this questioning we will never know, since many papers are missing. Far from being sentenced to death, which would be the normal consequence of setting a ship aground if you were the pilot, he was set free.

A quick salvage was done immediately, and so large were the profits of the trade that it was enough to pay for the costs, including the loss of the ship. And 14.5 percent in dividends was given to the participants.

Some days after the homecoming, the crew, following tradition, would have a celebration for their safe return, and have a whole night of food and entertainment. By most standards, those who survived would now be rich, despite the loss of the ship.



Cargo layer in the Götheborg



The sinking of Götheborg

The East Indiaman Götheborg hit rocks and sank just 900 meters from home. Excavation work started immediately and continued for two centuries. The excavation work is as interesting as the story surrounding the sinking of the ship. This excavation work played an important part in the creation of the new Götheborg.

The big excavation

By Han Manman / Qiu Jiaoning
Chronology

On 28 November 1745, 30 tons of tea, 80 bundles of silk brocade, and various items of porcelain were auctioned off.

1746-1747: a small part of the cargo, which, by then, was severely water damaged, was recovered. About eight percent of the 370 tons of tea was salvaged.

1747-1760: There were several small excavations during this period. One tenth of the tea and one fifth of the other cargo was salvaged. The cargo was so valuable that the recovered merchandise covered the loss of the ship and yielded a 14.5 percent profit.

1860s and 1870s: Diver Johan Kjellberg succeeded in taking up 77 dozen sets of porcelain. Captain Lampa and James Bourn, according to a newspaper report from 1877, recovered "a lot of porcelain...consisting of tea and coffee cups and saucers, large and small plates, tea and coffee pots, etc."

In 1864 and 1876: pieces of oak were salvaged from the wreck, along with some additional porcelain.

1906-1907, James Keiller, a member of one of the distinguished Gothenburg families of Scottish descent, and Carl Lyon, an antique dealer, obtained royal permission to recover porcelain from the wreck. They recovered no fewer than 4,300 pieces of porcelain, plus a large number of porcelain shards. Nothing of interest or value was believed to remain underwater, and the ship was forgotten again.

Excavation technique

Being 36 meters long and 28 meters across, the find area comprised 1,008 square meters or 252 2-by-2-meter squares. Each square had its own number in a coordination system (similar to that used, for example, by chess players).

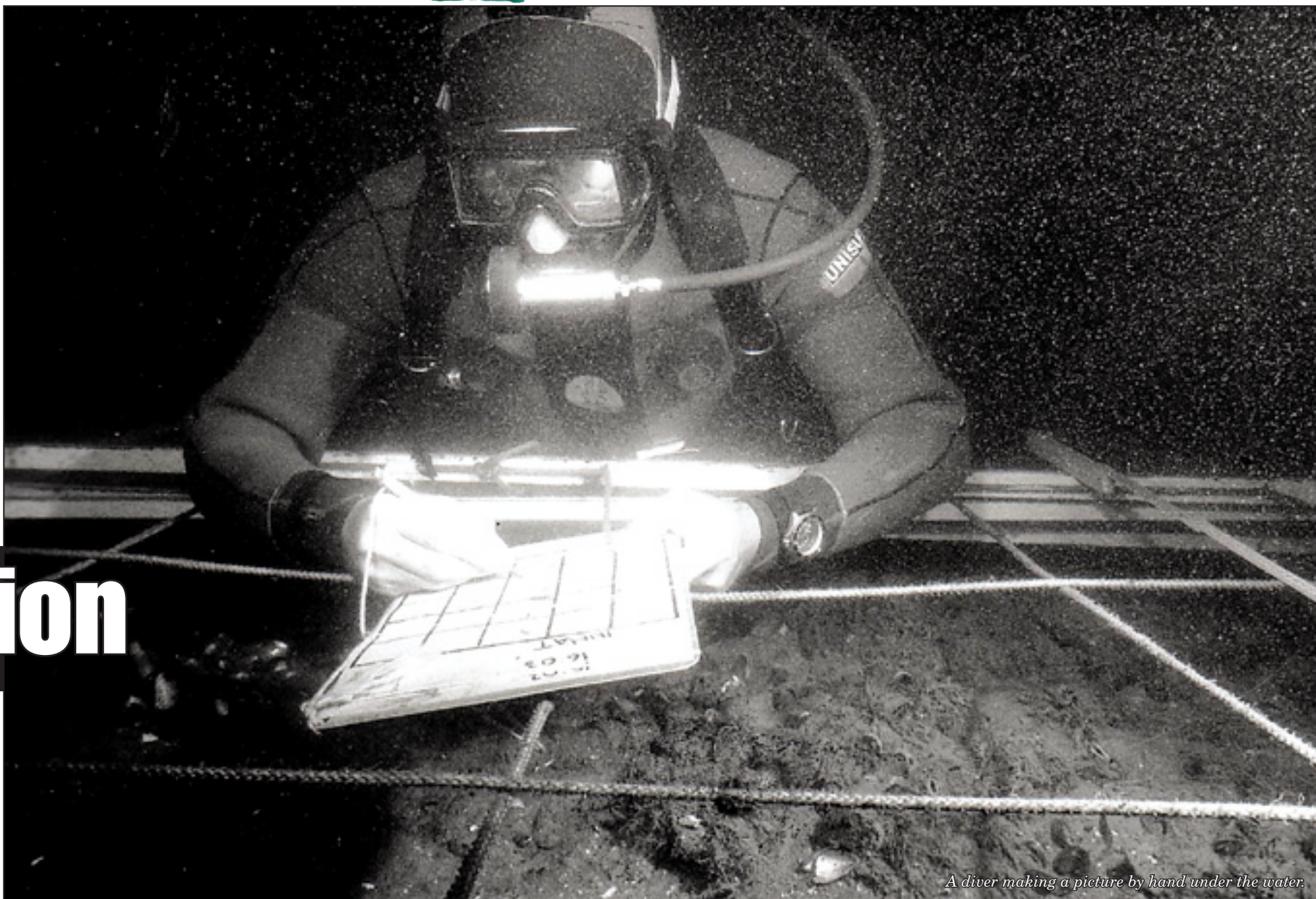
To measure and map all finds, the area under investigation was mapped with the use of a three point system. The three points were the lighthouse on the Hunnebådan Reef and two 8-meter-high towers that were erected on the sea bed, one 15 meters to the north, the other 15 meters to the south of the area in question. The exact locations of each of these three points were determined by theodolites (optical instruments used to measure angles) used above the surface of the sea and were recorded on a map of the area. Each corner of the area to be investigated was then located by measuring its distance with a tape measure from each of these points.

A machine called an airlift was used to extract materials from the surface. This is a flexible tube, which has an internal diameter of up to 20 centimeters. It extended from the workboat to the seabed; when it was not in use it was filled with seawater. An air pump in the boat supplied air under pressure through a separate pipe that led into the airlift about a meter from its mouth.

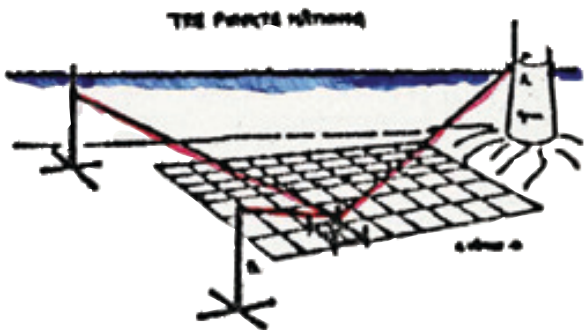
A diver regulated the flow of air into the airlift: as the air bubbles lift upward in the tube, the water flows upward with it and is discharged over a sieve in the workboat. The sieve is fine enough to catch things as small as a peppercorn.

The diver executed the excavation by bringing the mouth of the airlift close to the seabed, where the water flow in the tube sucked in mud and finds without obscuring the visibility. The diver could thus keep an eye on what was exposed in the square under investigation as the mud was sucked away. Whether the diver saw everything or not the sieve in the boat would catch anything that was brought to the surface.

The purpose of the excavation was to systematically expose and document what the area contained, and to find what remained of the vessel and her cargo. Everything that came up was filtered on the surface. The finds were immediately conserved.



A diver making a picture by hand under the water.



A map illustrates the search area of 1,008 square meters that was excavated up to the end of 1991.



The place where the ship sunk. The lighthouse was built in 1949 to warn of danger.



Preserving the ship's remains underwater



The methodical search for treasure

Diver's diary

By Anders Wästfelt
9th December 1984

The ship-wreck of the East Indiaman Götheborg was re-discovered by me and my partners Anders Lyckdal, Anders Johansson and Peter Eluntund, which marks the start of today's new Götheborg. I took the initiative to do the dive after a conversation with the marine archaeologist Catharina Ingelman-Sundberg, who knew about the ship-wreck in 1745, the dives that were undertaken in the middle of the 19th century, as well as the dives in 1906 and 1907. Catarina asked me to find the wreck of Götheborg and take some pictures for her upcoming book about interesting wrecks in Swedish waters. The wreck was discovered on the first dive. At that time I was the head of the newly-formed Marine Archaeological Society in Gotheborg.

12th September 1985

The result of the research was presented in a report named The Story about the East Indiaman Götheborg.

April 1986

Our group formed the East Indiaman Götheborg Trust to exercise responsibility for carrying on the



Anders Wästfelt

project. The first and most important job for the Trust was to raise funds to finance the investigation.

July 1986

At that time, more porcelain, tea, spices and silk were found beneath layers of sediment. However, we also found items which the crew traded privately, such as fans, Chinese padlocks, parts of a Chinese folding chair, tools, and paint, as well as the odd 250-year-old cockroach egg!

The group of amateur divers who found the Götheborg formed the core of the organization that would make the investigation.

Anders Wästfelt (born in 1943)

Discoverer of the Götheborg wreck. Project director. Initiator of plans to build a full-scale copy of the Götheborg. Chairman of The Friends of the East Indiaman Götheborg.

Initiated plans to build the new East Indiaman Götheborg (1992). Founder of the ship building Foundation East Indiaman Götheborg III (1993). Member of the board of directors (1993-98).

From diver to master shipwright

By Chu Meng

A combination of old East Indiaman drawings and underwater excavations were used to help make the replica of The Götheborg, according to Master Shipwright Joakim Severinson, the man responsible for building the replica.

"We had to dive quite frequently to the wreck, to select and collect samples from the wooden body. We established a data pool by analyzing these important samples. All raw materials, from timber to cordage, canvas and tar, backstays and girders, even ropes and nails, were examined," Joakim Severinson said.

For Joakim, the East Indiaman ship is becoming a life-long project. He was 24 when he took part in the underwater excavation. "I've been a scuba diver ever since my teens and took part

when the excavations started in 1986. Three years later, I became the full-time excavation manager," he says.

They began by diving to retrieve pieces of wood and porcelain.

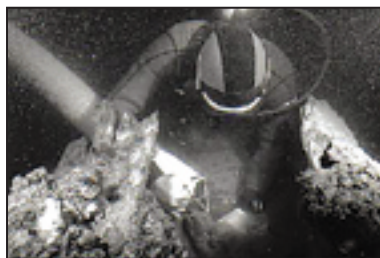
"We brought those things to the archaeologists, and suddenly they and the whole world were intensely interested.

Then a more official, professional, and large-scale excavation began on a daily basis," he said.

Just 24 years old, Severinson threw himself into his work in the dark depths. "We dived for 40 minutes to one hour every time, two or three times every day. We had 20 divers working simultaneously. Due to the frigid climate conditions, we could only work one month every year from 1986 to 1993," he said. Severinson said underwater excavation was thrilling work.



Joakim Severinson



A diver excavated the sunken ship.

'Smuggling caused the Götheborg tragedy'

By Anders Wästfelt

I know that the pilot of the ship Götheborg, Mr. Kasper Matson, who was responsible for taking her safely into the harbor, was imprisoned immediately after she ran aground. In the 18th century there was a law saying that if a pilot lost his ship, he would lose his life. After 12 days of investigation Mr. Matson was freed. Obviously he was not found guilty of the accident. He lived a long and rich life and continued to work as a pilot.

Götheborg's last trip to China took almost 30 months. Normally it took 15-18 months. I have found archives in Amsterdam (Holland) that Götheborg was stopped by the Dutch navy outside Indonesia (at that time occupied by Holland). They suspected Götheborg was smuggling. She was brought to Batavia (Jakarta today) to be checked. The result was that she missed the summer monsoon to Canton (now Guangzhou) and had to wait in the waters around Indonesia for six months. There are no documents telling what the ship-directors (supercargoes), captains or crewmembers were doing during that time – but I am sure that every man was engaged in private business during the involuntary stay. Company directors in the city of Götheborg gave permission to crewmembers to bring home private cargo for private business. After the accident of Götheborg, that privilege was withdrawn. During the excavation we found many artifacts confirming that theory.

With this knowledge I was convinced that Company directors in the city of Gothenburg had instructed the pilot, Mr. Kasper Matson, to stop Götheborg before entering the harbor, because then the directors could control the cargo. They knew by their own experience that there were great possibilities to earn a lot of private money by smuggling cargo. Mr. Matson knew the entrance of the river Gota quite well and should have steered the skip in to the muddy banks close to the fortress Nya Elfsborg. But a big fully-loaded sailing ship is not easy to steer in narrow waters. By pure accident Götheborg ran aground on the well-known underwater cliff, only 900 meters from its home harbor.



The sinking of the Götheborg created a treasure trove off the coast of Gothenburg. The site became a magnet for divers, lured by the Chinese tea, porcelain, furniture, silk, and of course, the spices. Even the wreck of the ship also became good material for high-end furniture.

The golden shipwreck

By Qiu Jiaoning

Shortly after the shipwreck, efforts were made to salvage as much as possible of the cargo. Fabrics and tea were recovered from the holds, although these had to be dried before they could be sold at a healthy profit. Sales of the salvaged goods went so well that the voyage made a profit even though the whole ship had been lost.

Thirty tons of dry tea was sold, a large quantity of porcelain and 80 bales of silk brocade. The first dives to the wreck were made using diving bells.

In 1746, divers rescued about 30 percent of the cargo, enough for the voyage to end with a 14 percent profit. Since she sank in salt water, the wood was slowly eaten by the ship worm *Teredo Navalis*. The wreck disintegrated and has more or less disappeared.

Twice during the 19th century, and again in 1906-1907, cargo was salvaged from the wreck. On a couple of occasions during the 19th century, certain parts of the hull were salvaged, and, as recently as 1906-1907, James Keiller and Carl Lyon recovered approximately 3,000 porcelain objects intact, as well as a great many broken pieces.

In 1905, James Keiller, a member of one of the distinguished Gothenburg families of Scottish descent, and Carl Lyon, an antique dealer, obtained royal permission to recover porcelain from the wreck and to salvage what remained. After this work, which continued in 1906 and 1907, nothing of interest or value was believed to remain underwater.

The salvage expeditions recovered the 3,000 undamaged porcelain pieces within an area the size of a football field covered with shards.

The finds were all registered and declared for import duties after which some of the finds were auctioned to the public by the Lyon family. It appears James Keiller kept a large amount to decorate his home. A large proportion of the recovered pieces seem to have been medium sized fruit dishes in blue and white. Teacups and saucers of 'eggshell thinness' are mentioned in early reports from the salvage operation but the full total of undamaged eggshell tea sets might be less than a few dozen.

Thereafter, the Götheborg was all but forgotten right up until excavation work was started in 1986.



Porcelain under the mud of the seabed



Wooden tea-box

Anyone for 18th century tea?

By Han Manman

Would you dare to drink tea that was at the bottom of sea for 260 years? Diver Anders Wästfelt not only dared but also said it tasted good.

In December 1984 Anders and a couple of friends made the first plunge into the cold, muddy water at the entrance of the Swedish port of Gothenburg and found a large amount of wrecks, tea, spices, and porcelain under the seabed.

The unbelievable thing happened when the divers did excavation work: they found some of the tea was suitable for drinking, even today. According to Anders, the savory smell of the tea greeted him first when he found the tea under mud of the sunken ship.

But how could the 260 years old tea taste fresh? "It depends on the wooden tea-box. The box inside was paved with tin paper that prevents the tea from oxygenating," said Ji Wei, the principal of 2006 Imperial Palace Gotheborg Exhibition.

Anders also proposed another reason. "It could be because the tea was packed by compression and air-proof casing. With a comparatively low salt content in the water, and the fact it was covered by seabed mud, the tea was preserved," proposed Anders.

In the 17th century, Chinese tea was a symbol of class and status in the eyes of Europeans. It was also the most profitable and largest bulk merchandise on the 1745 voyage. 366 tons of tea was loaded on the ship.

There are various ideas about what kinds of tea were actually on the ship, as well as their origins. The original Swedish document records the following information:

2,500 chests of Bohea: A black tea that was the cheapest to trade in, said to come from Wuyi mountain in Fujian province. Over 80 percent of the tea that the East India Company imported was usually Bohea.

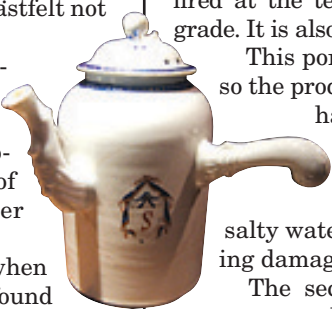
500 chests of Congou: This is also a black tea from Fujian province. It is known as a superior quality Bohea. The color of the tea is more yellowish.

148 chests of Souchoun: This was also a black tea from Fujian. It is better than Congou and almost three times more expensive than Bohea. The leaves in the pot are green.

10 chests of Bing: a kind of Pu'er tea that is made through compression. This was called the Imperial tea. A green tea with broad leaves from Anhui Province, Bing was the only green tea that the company bought.

10 chests of diverse tea in 780 small packages.

The question that remained after the excavation was whether the tea cargo was accurate and the prices and quantities were reasonable.



Gilt famille-rose coffee pot

Porcelain discovered on Götheborg

By Zhang Nan

In the 1860s, 77 sets of porcelain pieces were salvaged from the sea, including tea cups, coffee cups and plates, tea jars and coffee jars.

From 1906 to 1909, around 7,300 intact porcelain pieces were salvaged from the sea and a great number of porcelain fragments as well.

During the salvage from 1986 to 1991, at least six tons of porcelain fragments were salvaged from the sea. However, the number of intact pieces was less than 300.

The porcelain pieces on the ship can be mainly divided into three categories.

Most of the pieces are "Youxialan", which are made by first laying blue color made from cobalt on the porcelain flans. Then, a gaze is put on it and fired at the temperature of 1,200 degrees centigrade. It is also called "blue and white porcelain".

This porcelain only goes into the fire once, so the production cost is relatively low. About half of the salvaged porcelain fragments are "Youxialan". Because of the protection of the gaze on the top, these pieces can be kept in salty water for quite a long time without being damaged.

The second category is "Youxialan" porcelain with iron brown gaze on one side. This kind of porcelain used to be called "Batavia porcelain" by Europeans, and they were usually used for drinking milk and coffee. They cannot survive in salt water as long as pure "Youxialan" and the surface of most pieces were damaged and lost their luster. As the brown glaze faded, the porcelain became the homes of sea creatures like barnacles. Most of the porcelain found was covered in shells.

About 10 percent of the fragments are of a special five-color decoration. The enamels of some of the fragments are well preserved. However, because enamel is likely to decompose and in salt water, and because sands also stoke the fragments along with water flow, most of the enamel was worn away.

Besides, there are also small amounts of powder blue porcelain pieces. A few of them are decorated with mother of pearl.

A few thin porcelain pieces of a soft texture were also among the discoveries.

There are also some special porcelain pieces - little statues, such as a dog, a sitting Chinese boy, candleholders and more.

At present, these salvaged pieces are kept in some of the Swedish museums, including Maritime Museum of Gothenburg, the City Museum of Gothenburg, the Museum of Far Eastern Antiquities and the Antik West Company.



Famille rose plates with armorial pattern



The ship's rope



A ship's nail



A wooden block

Wreckage becomes furniture

By Zhang Nan

During the three salvage operations, only a small portion of the ship was salvaged from the sea.

In the middle of the 19th Century, the oak beams which made up the ship turned black under the sea. Many people tried to salvage these valuable timbers to make furniture. Some diving companies tried to use detonators to separate the ship's body from the seabed. From 1864 to 1876, some oaks were salvaged from the sea.

In the summer of 1989, the stern part of the ship was salvaged. It is the most complete part to be removed from the wreck. "However, the main part of the stern had been reburied just after it was salvaged," said Inger Nyström, the archaeological expert in Studio Västsvensk Komservering (SVK), "Only a small part, the sculpture part which had been attached to the stern, is now kept in the conservation studios of SVK."

Inger Nyström added that not much of the ship's body had been salvaged during the excavation in the 1980s, and very few parts, including cables and chain wheels, are kept in Swedish museums at present.

The cargo list of a leaky ship:

By Han Manman

The following is a list of the goods the Götheborg brought from Guangzhou. The whole cargo was estimated to be worth over 2 million silver crowns, which at that time was a fantastic sum of money.

6,056 bars of Tutanego (133 tonnes), a metal used for making decorations.

289 crates, 12 kegs and 2,388 piles of china porcelain.

2,388 bundles of porcelain

3.4 tons mother of pearl

1.8 tons pepper

11.4 tons Galangal, a ginger-like spice

2.3 tonnes of rattan

2,677 crates of tea (366 tons)

19 crates of silk

A total of 650-700 tons of return merchandise was brought on board. A further 80 tons of water and 110 tons of provisions were added to the cargo, giving the ship a total cargo of 840-890 tons, matching the estimated cargo capacity of the ship.

The East Indiaman was quite a leaky ship that couldn't be loaded in any old manner: they needed to consider the condition of the ship before loading. Heavy and watertight goods needed to go furthest down and sensitive, light items on top of that. All breaches of this basic rule caused problems. One error, like putting the drinking water too high up, could make the ship so unstable that you could hardly make it back home, which was what happened with the Riddarhuset, and possibly the Götheborg.

At the lowest level, the porcelain was placed on top of the ingots of Tutanego (a mixture of copper and zinc): both heavy and waterproof merchandise. This created a floor on top of which tea and silk could be placed. Every other available space was filled with private merchandise and cheap goods that could be sold at a profit.

The Göteborg resurgent

By Feng Nianhua

Two hundred and forty years after the Göteborg was wrecked, a diver Anders Wastfelt began a marine-archaeological excavation on the spot it sank. The attention surrounding the find and the excavation whetted people's appetites, and crazy as it sounds, led to the idea of rebuilding the entire vessel in full scale using traditional techniques and sailing to China once again.

The keel was placed at Terra Nova shipyard on June 11 1995, but production didn't start for real until a year later, with the making of the rib-frames. In November 1998, all the frame timbers were fixed together with the stern and sternpost. The mounting of the inner and outer reinforcements and the deck beams fitted to hold the pine deck in place were completed in October 1999, when the planking of the hull was started. On June 6 2003, Swedish National Day, the launch ceremony for the Göteborg took place.

The man-hours for rebuilding the ship hit more than 300,000, and the cost was 350,000,000 Swedish krona (more than US\$40,000,000). More than 56,000 nails and 10,000 bolts, with 4,000 cubic meters of oak and pine, and 2,000 square meters of man-made linen sails were used. In addition, the weight of the rig is 25 tons and 1,000 sliding pulleys made of elm were produced by hand.

The total length of the ship, including bowsprit, is 58.5 meters, and its beam is 11 meters. The mast is 47 meters high, and its displacement (weight of ship and load) is 1,150 tonnes. Its sail area is 1,900 square meters, and its average speed is 5-6 knots, with a max engine speed of 8 knots.

Although some changes occurred, for example, the decks were raised 10 cm each since people are a bit taller today than during the 18th century, and contemporary machinery systems were equipped to comply with full safety regulations from the international shipping authorities, the ship was built according to traditional shipbuilding methods and with as much historical accuracy as possible.



Forging fire

Traditional smithing

By Dong Nan

To maintain the original style of Göteborg III, all the forged materials were built with the ancient techniques of the 1700s, including all the joints, hinges, bolts, nails, rivets, bolts, hooks and hoops on masts.

Even the tools of the craftsmen were built in this way, including all the caulking irons, sledges, sinkers and axes.

To make it as historically accurate as possible, all 51 tons of iron used in the building were forged from materials with a history of more than one hundred years.

Sweden owns rich iron mines, and iron forging is one of its traditional industries. In the 1700s, Sweden used to be the biggest exporter of iron in Europe, and 90 percent of the iron in the UK was imported from Sweden.

To recreate the Göteborg in all its glory, the shipyard built a traditional blacksmith's workshop within the yard as soon as they began work. They invited the only "master blacksmiths" who can forge in the traditional way, including Dan Engqvist and Smedja Innegarden, to research and reproduce the old techniques and train new blacksmiths.

During the years of building Göteborg, under the watchful eyes of Dan Engqvist and Smedja Innegarden, blacksmiths in Terra Nova made 56,000 long nails and 10,000 bolts. 250 curved joints were forged just to join the decks, and other joints and hinges needed to be built specially to suit specific conditions, such as special bolts up to 2,400 mm long with a diameter of 32 mm.

Tools built by the blacksmiths workshop



The ship is as historically accurate as is possible

The construction of the hull

By Feng Nianhua

On June 11, 1995, Sweden set the first keel, the central axis like the human body's backbone, through the hull from front to back, at Terra Nova shipyard, thus announcing the beginning of the Göteborg's resurrection.

The keel is made from three oak trunks, which have three characteristics to satisfy the demands of ship building: hardness, intensity and fire resistance. The oaks were all around three hundred years old. Many two-meter-long rivets were used to bind the trunks together.

According to the Swedish tradition of ship building, two coins were inlaid in the two junctures: one was from 1745, when Göteborg made its fateful return journey; the other from 1995, the year Göteborg was to be rebuilt. The Swedish East India Company wants to link the present and the past with this venerable tradition.

The hull of the Göteborg was constructed according to the regulations with as much historical accuracy as possible, most of all concerning the outer and inner hull, above the free board deck. The ship is divided into three floors: upper and lower decks and a gun deck. The bilged compartment of the hull is divided into six waterproof sections for safety and to limit any possible damage.

Different kinds of wood were required to build the hull, for example, laminated pine was used for the rib frame to make the hull very strong, and oak for head spar, stern post, shell plate, bridging beam, ceiling and other trusses. The hull's deck, base board and wales were mainly laid down with oak, linked with pine board for safety. As for the wales under the water, these were made of oak and smeared with asphalt, with a felt underlay and linked with one-inch-thick pine board as an outer layer to keep the oak structure from corroding.

To build such a big sailing ship, huge quantities of wood are required;

the wood must had to be of a very high quality. The length of the logs should be above six meters, and the diameter more than 60cm. Sweden has been regarded as the "lumber-mill" of Europe although, after so many centuries, it is hard to find enough appropriate logs.

As Joakim Sevrinon, the Shipwrights master, said "The biggest challenge during rebuilding was how to find enough appropriate wood." The shipbuilders often had to look for logs in wild forests for hours, deep in northern Europe's winter weather, with temperatures as low as minus 30 degrees. When the trees were cut down, they had also to find ways to carry them to the Göteborg. This was the litmus test of the shipbuilders' spirit and energy. Since there were no original design documents available, such projects remained very difficult. Fortunately, in this case, workers benefited from the salvaged stub buttock and the help of classical Swedish watercraft researchers. The shipbuilders

were ultimately successful in drawing a blueprint for the new Göteborg.

About 40 people were working with the building of the ship. The shipbuilders were led by Joakim, who has great experience in building wooden ships, although not any of this size.

"When I normally talk of frame-ribs, it is usually something that can be carried on one's shoulder. The frame-ribs of the East Indiaman weigh around 1,600 kg each," he said.

In the shipyard, people made a rough processing of the new fallen logs, which were selected and classified, filed and finally stored.

The framework of the ship is very similar to the thorax of the human body. The ship's rib frames, like a human body's ribs, are linked to the keel. However, due to the shortage of appropriate oak wood, shipbuilders had to find other alternatives. They superposed pine boards and belted them with iron bars and rivets, then heated them with steam. At last, they



Processing the logs

Photos provided by soic.se

succeeded in shaping the type of laminated pine for the rib frame.

Every piece of rib frame was designed according to its occupation in the ship's body, especially according to hull's section plane. The space made by the rib frame in the middle of the hull is broadest, the front and rear ones becoming gradually narrower. At the end of the hull, the rib frame furls and closes up completely, thus streamlining the ship.

By November 1998, the mounting of the ship's body structure was completed. After the completion of the framework, workers continued to mount the short curling between the bilge and component. When the short curling was connected with the rib frame, a meshy structure was unveiled. Then workers set some floors of beams in the inner of the hull, for the mounting of the deck.

From spring 2000, the workers began to lay the deck. The hull of Göteborg was completely finished in 2003.

The ship's 66 frame ribs are made out of laminated pine. The hull is 75 percent oak and 25 percent pine. More than 70,000 hand made nails and 10,000 bolts was used in the building of the hull, all made in the smiths' workshop.

"The building of the hull took eight years. We were forced to make some changes to the original, so the new Göteborg is a more modern ship," said Joakim.



The gundeck



Sail Making: a stitching time

By Zhou Ying

There are both similarities and differences between traveling to China in an East Indiaman in the 18th century and the 21st century. The main differences are in safety and navigation. However, the similarities are greater than you might think.

Nils-Ove Jansson, commodore and former commanding admiral of the Western Naval Command, who is responsible for planning the East Indiaman Götheborg, said that the total time from laying the keel to producing a finished vessel was around 10 years.

"This is largely due to the fact that both the drawings and the old shipbuilding methods have had to be 're-invented'. Knowledge that has been lost over the centuries has been revived following months of research and tests," he said.

According to him, a great deal of time has also been devoted to fulfilling modern seaworthiness requirements stipulated by the Swedish Shipping Inspectorate on all ocean-faring vessels. However, seaworthiness is not simply a series of compromises where innovations have had to be introduced. Sometimes the traditional materials and techniques are far superior.

"One example is the rigging," says Nils-Ove Jansson. "It had to be built using the methods and materials used in the 18th century. Modern sail and rigging nylon materials, which can withstand greater stresses and strains, could topple the ship and sink it in strong winds. For optimum safety, the sails and rigging must be able to blow apart, therefore we chose canvas."

The press office of The Swedish East India Company revealed that the material for the sails is top-quality canvas sheeting, woven in the UK by The British Millerain Limited Company.

Nils-Ove Jansson said that the largest sail measures 250 square meters. The normal suit of sails totals 1,500 square metres, and with all the extra sails the ship will have 1,964 square meters of sail in all.

"Almost 2,000 square metres of sail will be made for the Götheborg, from hand-stitched linen. The weights and dimensions are historically accurate," he added.

The density of the canvas varies depending on which sail the canvas is to be used for. "The coarsest canvas weighs one kilogram per square meter, and the lightest 0.6," he explained. The press office of the company showed an official document stating that since some of the ship's sails are incredibly large and are made of very thick canvas, head Swedish sailmaker Ingvar Karlsson, and his sailmakers certainly have performed a gigantic and laborious sewing job.

"The full suit of sails was divided into 26 different hand-sewn sails. The sailmakers had to sit on their benches and sew a full 13,000 metres of satin stitching, as well as hundreds of meters of bolt stitching," he said.

Nils-Ove Jansson revealed that the main topsail is 250 square meters, and the smallest a little stay sail of ten square meters. "Once the first suit of sails was finished, a reserve set was also made for the Götheborg," he added.

He said that they even had a big discussion on whether to use sewing



'And the train goes through the tunnel...ow!'

Photos provided by soic.se



The sail loft

machines or not at first. "Some were quite excited about the task. When they started to stitch by hand they were actually faster than the machine. The average rate was one hundred square meters per hour."

Speaking of the whole task, he said that apart from a lot of hard work and a lot of large blisters, sewing large square sails demands a high degree of professional skill. "The head sailmaker is

quite talented and experienced. He was involved in making a whole new suit of sails made of canvas sheeting for the American four-masted Sea Cloud. At that time he worked for the well-known Swedish sailmakers Albrechtsson & Hasses. Naturally, we are now very pleased that we have managed to attract as knowledgeable a craftsman as Ingvar for the shipyard's rigging and sail section."

Rigging the Götheborg: the amazing story



Bjorn checks the bowsprit



Bjorn Ahlander, in charge of the rigging team



Various blocks



Block making



Bjorn exams the mast Photo by Bjorn Ahlander

By Deng Minjie

The great ship Götheborg started its remarkable voyage last Sunday (October 2), to worldwide attention. Carrying with it Swedish wisdom and wares, she is expected to arrive at her final stop at Shanghai Municipal, east China in the summer of 2006.

Rebuilding the Götheborg was a complex project, consisting of a series of processes, and taking around one hundred people many years to finish. The design and production of the rigging was a key part of the project.

Bjorn Ahlander, who was in charge of the rig before the ship set sail, said. "I have been impressed working with other people on the ship."

The rigging on the rebuilt Götheborg is based on the rigging used during the 18th century, so intensive research was

carried out on the materials and dimensions of the rigging from 1992 onwards. "Although we haven't much experience, we did our best to fulfill the project," Ahlander said.

Producing the masts and blocks has implications on the rigging process. There are three key masts on the ship, namely, foremast, mainmast and mizzen. The bowsprit (the spar to which the stays are fastened) is 16.5 meters long.

The rigging team firstly had to calculate the dimensions of the masts, then test many times to get the right figure for production. They found fir wood has the best characteristics for mast manufacture, especially when soaked in special oil for some time after felling, then lying outside to air-dry for one year.

The mainmast took over 2,000 hours to make. The masts, consisting

of several parts, are jointed together in a complicated way, entirely without the use of glue.

Another important is the block production. There are 1,000 blocks made out of elm. "In fact, only 700 blocks will come into service, the rest is backup in case some break," Ahlander said.

The riggers also constructed a large model (scale 1:20) and constantly updated it, using a "test-rig" to avoid serious mistakes when working with real rigging.

It's not difficult for people to copy a ship using modern technology, however, the actual rigging work and the production of Götheborg, to greatest possible extent, has been carried out by hand.

"The ship itself is a masterpiece; but the process that made it a reality is a marvel in itself," Ahlander said.

18th Century flavor, with all the comforts of home

By Wang Shuang

The US\$4 million modern machinery system helped give a little chubby lady in 18th century costume a 21st century brain.

In the past 6 years, a 13-person team has focused on the building of the ship's machinery system. "It has everything that a common modern ship has. Although we found no place for air conditioning as the ship is designed strictly in accordance with the original flavor," said Sture Arvidsson, the man in charge of the team.

Sture Arvisddon, who will retire soon, called it a "once in a lifetime chance" to participate in such an event and the most challenging job he has ever had. He revealed that "during the past 6 years, sometimes the project had to stop, or slow down and we even had to rework plans due to difficulties in financing and design."

According to the profile provided by the East Indiaman, the great challenge in the project was to create a technical system that fulfilled the demands from international shipping authorities and yet preserved the appearance of an authentic East Indiaman. For the crew, provisions were made for a good environment during long sailing tours on the oceans. All these demands and conditions are sometimes very difficult to combine, but most often, satisfactory solutions appear.

In order to keep the inner structure unchanged, they used a 3 dimensional computer system to design the placement of equipment. At present, the majority of the technical equipment is located deep down in the ship.

New features include the five watertight bulkheads. The bulkheads are to make the ship optimally seaworthy. They divide the ship into four parts. "When seawater leaks into one part, the bulkhead could prevent the water from leaking into other parts and thus keep the ship afloat," explained Sture Arvidsson, "In the past, without the bulkheads, the sailors had to pump the water by hand. What is more, they were facing the danger of sinking when water leaked in."

According to Sture Arvisddon, the bulkheads are quite big and the sailor has to climb up two decks to shut one down when water is leaking.

For safety, there are also emergency systems onboard. Two water pumps for an extinguishing system and a fire prevention center equipped with respiratory suits and extinguishing equipment are located in the engine room. "And sprinklers are in every cabin," said Arvidsson. The crew on an East Indiaman in the past could not have imagined the luxurious vacuum-flush toilets. At that time they had to hang on the outside of the ship to relieve themselves. The East Indiaman's intention is to sail across the oceans, safely and comfortably, in a historical ship. The crew nowadays must stay healthy and enjoy their time on board. A modern ventilation system provides fresh air in cabins and forecables. Two freshwater units can produce 9,000 liters of freshwater from sea water every 24 hours. A daily shower will be possible for all, as well as access to a laundry-room. Nice and clean, the crew will have their meals cooked in a well-equipped galley – one of the big power consumers on board.

In the latest testing the ship's speed is 11 knots (1 knot = 1,853 meters per hour) on average, a speed very much faster than her antique cousin. With the help of two principal engines, the renaissance ship will complete the same route in a comparatively shorter time.

All the machinery team will be on board when the ship sets sail. They will operate and maintain the system all the way.



Modern machines are used in the kitchen

Photo by Emily Nilsson

A Chinese treasure trove from the ship is on exhibition now. The exhibits were collected from museums around Sweden. Audiences may find a gap between their expectations of these Qing chinaware and the exact exhibits, which tells an interesting story of the cultural communication and mergence of the two cultures.

“The ship is a living history!”



Bjorn Gremner Photo by Xie Lixue
By Shelley Xie

Bjorn Gremner is the manager of AntikWest Company, one of the participants in the show.

Götheborg seems like a living history to him because of the salvaged porcelains and other rare finds his company deals in. He said: “I’m proud that a third of the exhibits were provided by my company.”

“Look at this plate with four different patterns,” he says, “It’s a sample for Swedish businessmen ordering patterns on plates and saucers. They point at the pattern and tell the Chinese staff the numbers they want (much like ordering food in a Chinese take-away in the west.)”

One feature is how some porcelain utensils combine eastern and western styles together.

One is a fish-shaped tureen. The carp symbolizes a rich life in China, but the idea of using it as a tureen came from Niclas Asahlgren, one of the most important directors of the Swedish East India Company.

“I’m a collector more than a keeper,” he says “the excitement during the discovery is hard to describe. I have been to China hundreds of times, but I’m still attracted by it. China is the benchmark in making porcelain.”



Fragments under the sea at the exhibition

By Shelley Xie

On 12 September 1745, the merchant ship was wrecked and sunk just 900 meters away from home harbor at Gothenburg. A treasure trove of porcelain plates and jars bought from Canton China were buried under the water.

For the following 260 years, people dived around the shipwreck to salvage items. Now they are back home for display at the Front Gate of the Palace Museum with some valuable items that illustrate trade between Sweden and China.

The exhibits are not dissimilar from other exported porcelain of the time – the centuries on the ocean floor have left their decorations: shells of sea creatures and the wear of the tides. One large blue and white saucer, Batavia-type, was salvaged in 1862.

Another eye-catching piece is a black rectangular box for keeping ladies’ accessories from the Qing Dynasty. Ji Wei, the curator from China shows off the detail of the black lacquer covers and golden lines painted with people and houses against a thick leaf pattern. He says:

“Inside, there are several divisions and sewing implements made of ivory. It contained gifts from China, probably for private business.”

Obviously, peonies, birds, people and landscapes are typical patterns on most Chinese porcelains. An interesting contrast is made by similar plates put together, one with a blossoming peony, the other a red rose. People can easily identify the peony as eastern and the rose as western.

There are many Chinese wares with Swedish patterns – tall and slim coffee pots, openmouthed milk jugs and pitch-

ers. At that time, with more porcelain exported to Sweden, people wanted patterns and styles that looked western. A cooperative was launched to produce them.

There was one kind of heraldic porcelain specially made for noble families. There are examples here: a pair of cups and saucers with a gilt letter ‘G’ on a blue background under a royal crown and a gold laurel wreath with mark ‘D.19 AUG. 1772’. They were ordered by the Swedish King Gustav III to commemorate the revolution on August 19, 1772.

If you visit, don’t miss the pottery pieces uncovered by the Swedish geologist Johan Gunnar Andersson, who discovered Yangshao culture in China. Before December 26, you can see all those treasures from antiquity for 20 yuan for the special porcelain exhibition, or 60 yuan for a whole tour around the Palace Museum, including the porcelain exhibition.



western style Chinese porcelain



Götheborg travel map at the exhibition

Photos by Tian Yufeng

Chinese porcelain takes Sweden by storm



Jarl Vansvik Photo by Xie Lixue

By Shelley Xie

Since the beginning of Chinese trade with Sweden, porcelain has been the most coveted item. Nowadays, they are still popular in the west.

As one of the experts on porcelain, Jarl Vansvik, spoke some of the valuable items in the Röhnska Museum, one of the participants at the exhibition.

Living in Gothenburg, he believes that the Götheborg is famous for her successful trade in China, which has had a great influence on this city that spread all the goods from Canton all over Europe. At that time, noble families and rich people used porcelain utensils to show their social status.

“There are lots of Chinese patterns, but also western patterns,” said Vansvik, who believes that at first, people were fascinated to see the different styles. “Perhaps we occasionally tire of our own styles.”

“One of the most valuable items is a small washer, produced at a kiln in Ru, Heman province, one of the five royal chinaware kilns in Northern Song Dynasty (960-1127 AD). There are no more than one hundred of such wares in the world, and we have two.”

Thorild Wulf, who came to China in 1910, found as many as 700 items, from Western Zhou Dynasty (11th century-771 BC) to Qing Dynasty (1616-1911 AD), and organized the main part of the museum. “One is a 1.71 meters high Buddha from a courtyard in Beijing. When it arrived, lots of rats ran out from the hole on its belly,” Vansvik said.

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Rebuilt Götheborg III at a trial voyage. Picture is from page 2.

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